# APPENDIX D

# EXPLORATION OF DEVELOPMENT OF AN AVIATION HUB IN SOUTHWEST ALASKA

The document contained in this appendix is the result of the Consultant Team's effort to determine what type of subsidies, capital improvements, or policy direction could support development of an aviation hub in Southwest Alaska. Development of such a hub was seen to be desirable insofar as it would (1) reduce transportation costs for freight and passengers, (2) make travel within the region more convenient, and (3) support the region's economic development.

The analysis of such a program is provided in the enclosed report by Northern Economics. The report concludes that sizable subsidies to air carriers would be required to induce them to reconfigure their operations in this way.

# The Encouragement and Development of an Aviation Hub in Southwest Alaska

- **What is an Aviation Hub?**
  - **From airlines serving Southwest Alaska's perspective, a feasible hub has the following attributes:**
    - A centrally located airport from which routes emanate in a spoke-like manner.
    - Enough demand and route possibilities to allow for efficient the utilization of aircraft.
    - Airport and airways accessible in almost all weather conditions
    - Aircraft fueling facilities
    - Aircraft storage facilities
    - Aircraft maintenance facilities
    - Terminal facilities that allow airlines to co-exist in a single location
    - Dependable and skilled labor base
    - Complete ticketing facilities

## ♦ Existing Conditions

- 1997 Passenger Enplanements at Hub Candidates

| Hub Candidate | Percent of Southwest Alaska Enplanements | |
|---|---|---|
| | Commuter and Small Certified Carriers Air (CAC) | Large Certified Air Carriers (CRAC) |
| Unalaska | 5.2 | 11.9 |
| Cold Bay | 2.3 | 7.4 |
| Kodiak | 27.6 | 30.2 |
| King Salmon | 19.3 | 15.3 |
| Dillingham | 17.0 | 10.6 |

Sources: (1) Parsons Brinckerhoff, et.al. 1997. Southwest Alaska Transportation Plan, Existing Conditions Technical Memorandum, Draft, pp. 106-107. (2) Department of Transportation, Aviation Department, Carl Siebe, Anchorage, Alaska.

- Airstrip Dimensions of Hub Candidates

| Hub Candidate | Airstrip size (in feet) | |
|---|---|---|
| | Length | Width |
| Unalaska | 3900 | 100 |
| Cold Bay | 10420 | 150 |
| Kodiak | 7562 | 150 |
| King Salmon | 8500 | 100 |
| Dillingham | 6404 | 150 |

Sources: (1) Parsons Brinckerhoff, et.al. 1997. Southwest Alaska Transportation Plan, Existing Conditions Technical Memorandum, Draft, pp. 106-107. (2) Department of Transportation, Aviation Department, Carl Siebe, Anchorage, Alaska.

## ♦ Issues and Opinions of Airlines in Southwest Alaska

Alaska Airlines, Yute Air Alaska, Peninsula Airways, Reeve Aleutian Airways, ERA Aviation, and Iliamna Air Taxi are the key airlines competing for market share in Southwest Alaska. Northern Economics contacted these airlines to determine their interest in developing an aviation hub somewhere in Southwest Alaska.

- Airlines follow demand. Without demand for their services, there is no revenue. The willingness for airlines to promote the development of a hub in SW Alaska will increase primarily by increasing the demand for air traffic.

- There is unanimous agreement among Southwest Alaska-serving airlines that aircraft overcapacity exists.

- Airlines believe that if a hub in SW Alaska was economically feasible, then it would have already developed.

- In addition to demand, costs are critical decision points.

  - Labor is the key cost component that airlines can control. In the U.S., labor costs, on average account for 1/3 of an airline's operating costs. The costs of labor are significantly higher (approximately 35% higher) in Southwest Alaska than in Anchorage.

  - Aircraft expenditures including debt service, lease payments, parts and equipment account for 20-40% of the airline's total cost

  - Property (including leasing expenditures) account for 15-30% of an airline's total cost

  - Insurance, on average, is likely to account for 10% of an airline's cost.

  - Fuel costs generally represent 5% of an airline's total cost. The cost of fuel in King Salmon is between 200% and 300% of the cost of fuel in Anchorage.

## ♦ Possible Provisions by the DOT/PF to Encourage Hub Development

### Direct Encouragement

- Subsidize labor costs (35% of a SWAK airline's budget)

  Baggage handlers make approximately $7.50 per hour in Anchorage, and $10.00 in King Salmon. Labor costs in general, are 35% higher in King Salmon than in Anchorage. Assume an airline with yearly total revenue of $15.0 million spends $5.0 million on labor. If the airline moves its operations to the new hub, labor would cost $6.7 million. If all other cost stay the same, the airline would report a net loss of $1.1 million, and need a labor subsidy of 1.8 million to attain the same profit.

  Assume the same airline decides to move 50 percent of its labor force to King Salmon. Total labor costs would equal $5.9 million, the airline would lose of $200,000, and would need a labor subsidy of $0.9 million to attain the same profit.

**Hypothetical Balance Sheet Comparing Labor Costs between a Hub in Anchorage and a Hub in Southwest Alaska ($ Millions)**

| | **Anchorage Hub** | **Southwest Alaska Hub** | |
|---|---|---|---|
| | | Labor Cost Increase 35% | Labor Cost Increase 17.5% |
| Labor | 5.0 | 6.8 | 5.9 |
| Aircraft | 4.3 | 4.3 | 4.3 |
| Property | 2.9 | 2.9 | 2.9 |
| Insurance | 1.4 | 1.4 | 1.4 |
| Fuel | 0.7 | 0.7 | 0.7 |
| **Total Costs (TC)** | **14.3** | **16.1** | **15.2** |
| Total Revenue (TR) | 15.0 | 15.0 | 15.0 |
| **Profit (TR-TC)** | **0.7** | **-1.1** | **-0.2** |
| **Labor Subsidy** | **0.0** | **1.8** | **0.9** |

- Subsidize fuel costs (5% of an airline's budget)

  Jet Fuel costs $0.60 per gallon in Anchorage and $1.65 per gallon in King Salmon. Assume an airline with yearly total revenue of $15.0 million. $0.7 million is spent on jet fuel at 60 cents per gallon in Anchorage. The same amount of fuel purchased at King Salmon would cost $2.0 million. If all other cost stayed the same, the airline would report a net loss of $0.6 million and would need a subsidy of $1.3 million to attain the same level of profit as it achieved at the Anchorage hub.

  Assume the same airline buy 50% of its aircraft fuel at the new hub in King Salmon. Total fuel costs would equal $1.3 million. The airline would report a net profit of $100,000, but would need a subsidy $0.6 million subsidy to attain the same level of profit.

**Hypothetical Balance Sheet Comparing Labor Costs between a Hub in Anchorage and a Hub in Southwest Alaska ($ Millions)**

| | **Anchorage Hub** | **Southwest Alaska Hub** | |
|---|---|---|---|
| | | Fuel Cost Increase 250% | Fuel Cost Increase 175% |
| Labor | 5.0 | 5.0 | 5.0 |
| Aircraft | 4.3 | 4.3 | 4.3 |
| Property | 2.9 | 2.9 | 2.9 |
| Insurance | 1.4 | 1.4 | 1.4 |
| Fuel | 0.7 | 2.0 | 1.3 |
| **Total Costs (TC)** | **14.3** | **15.6** | **14.9** |
| Total Revenue (TR) | 15.0 | 15.0 | 15.0 |
| **Profit (TR-TC)** | **0.7** | **-0.6** | **0.1** |
| **Fuel Subsidy** | **0.0** | **1.3** | **0.6** |

## Indirect Encouragement: Airport and Airway Improvements

- Runway Improvements
  Airlines indicated that AK DOT would do well to continue to upgrade existing runways. Improving the runways reduces airline operating costs and therefore making it more profitable to travel at lower load levels. The following improvements were noted:

  - Paved runways
  - Cross-wind runways
  - Runway lights

- Navigational Improvements
  The airlines have ideas on how to implement technology to provide better customer service (i.e. lights, navigation systems, increased airway safety) and reduce airline operating costs;

  - Automated weather observations systems (AWOS)
  - Differential Global Positioning Systems (DGPS)
  - Wide Angle Augmentation System (WAAS)

- Terminal Development
  A multiple airline terminal was cited by some airlines as an essential component of hub development. Multiple airline terminals reduce operating costs and improve customer service. However, some airlines noted that they have already made significant investments in buildings at most airports in Southwest Alaska, and might oppose terminal development unless compensated for property investments.

## Indirect Encouragement: Increase Demand

- Encourage/stimulate business development with non-aviation based infrastructure improvements.
  - Roads linking adjacent communities
  - Roads to aid land-based cargo movements
  - Deepwater port development to reduce costs of doing business
  - Road to deepwater ports

- Subsidize demand (by encouraging air travel)
  - Demand from Tourism:
    Tourism would appear to be a primary beneficiary of a SW airport hub. Tourists appear to desire a preset travel itinerary and do not enjoy spending time waiting at airports without services or having to travel through Anchorage as they tour Alaska's Southwest. Making airport and airway improvements at non-hub airports will improve the ability to attract tourists.

  - Demand from Residents:
    Residents living in rural Southwest communities show limited interest in direct connections between their home and surrounding communities. Residents appear to prefer travel to Anchorage for shopping, health services, and entertainment. If these types of services were offered in SW hub communities at prices similar to Anchorage then resident travel demand within Southwest Alaska may increase.

## ♦ Selection of an Aviation Hub in Southwest Alaska

- **Cold Bay**
  - Positive attributes
    - Large airstrip with cross landing strip
    - Access to Aleutian chain
  - Negative attributes
    - Lack of facilities
    - Lowest passenger and cargo traffic

- **Kodiak**
  - Positive attributes
    - Highest number of small airplane and cargo enplanements in SW-AK for the past ten years
    - Existence of infrastructure
    - Comparatively high demand for tourism
  - Negative attributes
    - Not centrally located to many SW Alaska communities

- **Unalaska**
  - Positive attributes
    - better connections to the Aleutian chain and mainland Alaska
  - Negative attributes
    - adverse weather conditions
    - short runway
    - technological problems (e.g. weather station is manned 12 hours/day)
    - not centrally located to many SW Alaska communities.

## ♦ Selection of an Avian Hub in Southwest Alaska (continued…)

- **Dillingham**
  - Positive attributes
    - Active airport with multiple airlines currently providing service
    - Relatively diversified economy (hotels, restaurants, medical facilities)
    - More summer traffic than King Salmon
  - Negative attributes
    - Adverse weather conditions inhibit scheduled air traffic
    - Little land at airport available for development
    - No central terminal – there are 13 separate buildings from which airlines operate

- **King Salmon**
  - Positive attributes
    - Most technologically advanced airport in the region
    - Sewer and other infrastructure remain from the now closed Air Force base.
    - Tourism activity already high
    - Land is available for development
    - Better weather conditions and landing success than at Dillingham
    - Centrally located to more SW Alaska Communities
  - Negative attributes
    - Possibly too far to the East to fully serve Peninsula communities.
    - Lack of key service facilities such as lodging and restaurants, medical facilities.

## ♦ Conclusions

- **If the demand exists air service will be provided**
- **Operation Costs in SW Alaska are much higher than in Anchorage**
- **Current demand and costs preclude a hub in SW Alaska**
- **Airlines would require subsidies under existing conditions to use a hub in SW Alaska**
- **King Salmon appears to have more positive hub attributes than others in SW Alaska**
- **DOT could reduce costs by improving airports and airways**
- **DOT could increase demand by providing additional non-aviation transportation infrastructure**

## ♦ Addition Research and Planning Needs

- **Analysis of demand for travel within SW Alaska by residents**
- **Stakeholder meetings, in particular between DOT and airline officials**
- **More precise specification of alternatives**
- **Feasibility and Cost/Benefit Analyses**